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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,571

11/24/2003

Marc R. Amling

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06/05/2006

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EXAMINER

LEUBECKER, JOHN P

ART UNIT

PAPER NUMBER

3739

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/720,571

Applicant(s)

AMLING ET AL.

Examiner

John P. Leubecker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 41-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Specification***

1. The abstract of the disclosure is objected to because it does not adequately set forth that which is new in the art to which the invention pertains. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 52 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 52, recitation of an “endoscope” begs the question: what is intended to be covered by “endoscopic device” in claim 41?

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 41, 44-47 and 49-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Alfonso (U.S. Pat. 5,896,166) in view of Monroe (U.S. Pat. 5,311,859) and further in view of McKenna et al. (U.S. Pat. 6,261,226).

D'Alfonso et al. disclose an endoscope device (7), a camera (3), a camera control unit (1) and a cable (5) having at least a pair of wires (Fig. 2). D'Alfonso et al. further discloses control signals being transmitted from the camera control unit to the camera head (e.g., V timing), control signals being transmitted from the camera head to the camera control unit (e.g., using serial data line) and image data being transmitted from the camera head to the camera control unit.

D'Alfonso et al. fails to disclose a light guide within the cable (no light guide is disclosed because it appears that the endoscope 7 is one in which a light source is not used). However, it is notoriously well known and conventional to use a light source with an endoscope to provide light for places having none, e.g., inside the body. Monroe et al. teaches a similar endoscope system (Fig.1) in which a light source, mounted within the camera control unit (32,36), transmits light to the camera head and into the endoscope through a light guide extending through the signal cable (30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the D'Alfonso et al. camera system with a endoscope requiring a light source to allow the camera system to view images in places where light is not available (e.g., inside the body). Furthermore, in accordance with the teachings of Monroe et al., it would also have been obvious to have provided a light source, mounted within the camera control unit, with a light guide extending through the signal cable. This known arrangement allows components that are normally used together, normally situated together during use, and having electrical/optical

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channels that extend to the same device to be conveniently combined, which would among other things, reduce the amount of space required and the number of cables extending between the camera control unit and endoscope. With the modification proposed above, a light source located in the camera control unit (1) of D'Alfonso et al. would inherently output light through the unit and into the light guide disposed in the cable connector.

D'Alfonso also fails to disclose a multiplexer for multiplexing signals from the camera head to the camera control unit and vice versa. Multiplexing of signals is a well known concept in the electrical arts. McKenna et al. teach that multiplexing signals between the camera head to the processing means reduces the number of wires and thus reduces the diameter necessary to accommodate such (col.21, lines 36-54). It would have been obvious to one of ordinary skill in the art to have multiplexed some or all of the signals in the signal line of Monroe et al. for the reasons taught by McKenna et al. Inherently the signals would have to be de-multiplexed at the processing means to accurately account for the transfer of data.

The method steps of claims 53-58 would be made obvious in view of the operation of the structure of the device as described above.

6. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Alfonso in view of Monroe in view of McKenna et al. and further in view of "Interface Circuits for TIA/EIA-644 (LVDS) Design Notes" (hereinafter, "LVDS Design Notes").

D'Alfonso et al. disclose what appears to be analog transmission of data and thus fails to disclose the use of a LVDS protocol. The LVDS Design Notes teaches that LVDS signaling is a known method of transferring data at high speed with low power transmission and increased

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signal-to-noise ratio (page 1, first paragraph under “General Information” and page 9, first paragraph under “Radiated Emissions and Susceptibility”). It would have been obvious to one of ordinary skill in the art to have used a known signaling method (LDVS) in a device (D’Alfonso et al.) where such method would be an improvement over the current single ended analog (or digital) transmission.

7. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over D’Alfonso in view of Monroe in view of McKenna et al. and further in view of Hattori (U.S. Pat. 4,356,534).

D’Alfonso et al., as modified above, fail to disclose a light deflector that severs the light path once the cable is disconnected from the cameral control unit. Hattori teaches the severing of the light path with a light deflector (84, Fig.3) when the cable is disconnected from the light control unit (col.3, lines 39-48) to prevent the leakage of light and potential damage to a user’s eyes (col.1, lines 17-24). It would have been obvious to the skilled artisan to have provided a light deflector in the control unit/light source for the desirable reason taught by Hattori.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 41-58 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

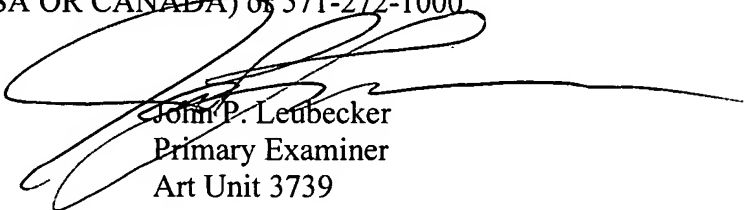
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (571) 272-4769. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John P. Leubecker  
Primary Examiner  
Art Unit 3739

jpl